

**California Air Resources Board**  
California Environmental Protection Agency



**CLIMATE  
ACTION  
RESERVE**

# **Updated Draft Forest Project Protocol Public Workshop**

**April 29, 2009**





# Background

- The Air Resources Board adopted the California Climate Action Registry\* Forest Protocols in October 2007
- Recognized the quality of the Registry's forest protocols
- Identified the importance of forests in achieving California's greenhouse gas reduction goals

\* now the Climate Action Reserve



# Why Update the Protocol?

ARB Board directed staff to:

- Initiate a stakeholder process to develop additional approaches to forest carbon accounting
  - public lands
  - private commercial forests not associated with a land trust
  - private non-timber forests (oak woodlands)
- Return to the Board with an updated Protocol



# The Update Process

- ARB contracted with the Climate Action Reserve (the Reserve) to lead and manage process
- Updates were developed through the Forest Protocol Workgroup
- Final Forest Protocols will be presented to:
  - the Reserve Board of Directors in mid June
  - the Air Resources Board on June 25-26



# Purpose of Update

- Allow greater landowner participation, particularly publicly-owned lands and industrial working forests
- Improve protocol clarity, accuracy, conservatism, environmental integrity, and cost effectiveness, using advances in science
- Improve the efficiency of project submission and verification.
- Enable the protocols to be used outside California



# Projects Registered Under Previous Reserve Protocol

- ARB and the Reserve fully support projects registered under Version 2.1 (September 2007).
- Projects will be verified under the protocol in place at the time the project was registered.
- Project proponents using Version 2.1 have the option to switch to the updated protocol



# Forest Protocols and California's Compliance Market

- The Forest Project Protocol is for project accounting in the voluntary market.
- Requirements for compliance-grade offsets will be addressed in the development of California's cap-and-trade program.
- Regulations for verification and enforcement must be developed before any reductions can be used for AB 32 compliance purposes.



# **The Forest Project Protocol Update Process**





# Forest Protocol Workgroup

- Group size chosen to ensure broad representation, to foster dialogue, and to be effective and manageable
- All-day sessions were held at least every three weeks since November 2007
- Comprised of:
  - Private landowners, large and small
  - Public landowners
  - Environmental organizations
  - Scientists/Academics
  - Public Agencies
  - Verifiers



# Issues Addressed in Update

- Baseline and additionality
- Risk-management: permanence and leakage
- Harvested wood product quantification
- Co-benefits
- Other Updates (project start dates, required pools for accounting, quantification guidance)



# Sub-Committee Leads

- **Improved Forest Management Baseline**
  - Eric Holst, EDF
- **Public Lands Forest Management Baseline**
  - Bruce Goines, USFS
- **Reforestation Baseline**
  - Doug Wickizer, CAL FIRE
- **Avoided Conversion Baseline**
  - Michelle Passero, TNC
- **Permanence**
  - Ed Murphy, SPI
- **Leakage**
  - Katie Goslee, Winrock
- **Co-Benefits**
  - Robert Hrubes, SCS
- **Quantification**
  - Tim Robards, CAL FIRE

# The Draft Updated Forest Project Protocol



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**Updated Forest Project Protocol**  
*PUBLIC DRAFT*

April 15, 2009



# Forest Project Types

- **Improved Forest Management** - activities that increase forest-based sequestration and/or decrease emissions.
- **Reforestation** - less than 10% canopy cover for at least 10 years, or following a significant natural disturbance that has removed at least 20% of the trees. No harvest of sawtimber allowed for at least 30 years.
- **Avoided Conversion** – Removing a significant conversion threat to non-forest use and dedicating the forest to continued forest cover.

Project guidance provided for public and private lands.



# **Baseline and Additionality**



# Private Lands Forest Management Baseline

Project-level modeling conducted to determine a baseline that:

- Exceeds legal requirements.
- Is financially viable
- Does not follow a period of rapid depletion
- Does not decline below regional measures of 'Common Practice'

Protocols provide standardized guidance for modeling

Project stocks above baseline are credited



# Public Lands Forest Management Baseline

Quantification of baseline using an historic (10-year) review of:

- Retention standards
- Rotations
- Other practices determined by statute, regulation, policy, and budgets.


The review provides the basis for forward modeling. Project stocks above forward-projected baseline are additional.





# Updated Reforestation Baseline

- Baseline is simulated future characterization of carbon stocks if cover >10%, or narrative description if <10%.
- Project allowed if project land base has undergone significant natural disturbance and the landowner is not required by law to reforest.
- Economic evaluation required to determine that reforestation activity would not have otherwise happened.



# Baseline for Avoided Conversion

Baseline is based on likely effects of conversion as substantiated by an appraisal and similar regional practices.

Other required criteria include:

- Suitability of project area for conversion
- Legal permissibility of conversion
- Assessment of risk of conversion as determined by disparity in value from appraisal.



# **Risk Management: Permanence and Leakage**



# Risk-management

- Projects face a variety of risks that may compromise the reductions achieved by a project.
- Risks to **permanence** of reductions and risks of **leakage** (displacement of GHG emissions) are among the risks that forest projects may encounter.




# **Risk-management: Permanence**

- Protocols require that reductions be maintained for 100 years to meet permanency requirement.
- Risks to this requirement (reversals) include:
  - Natural disturbances such as fire, disease, insects, windthrow
  - Human related (intentional) reversals such as over-harvesting, conversion, illegal harvest, etc.



# **Risk-management: Permanence**

- Terms related to permanence in the protocol include annual monitoring and reporting, periodic third party verification, and contribution to – and use of a risk-buffer pool – in the event of an unintentional reversal.
- Additionally there is a contractual agreement (Project Implementation Agreement, PIA) that includes legal remedies to ensure system integrity in the event of intentional reversals or early termination of the project.



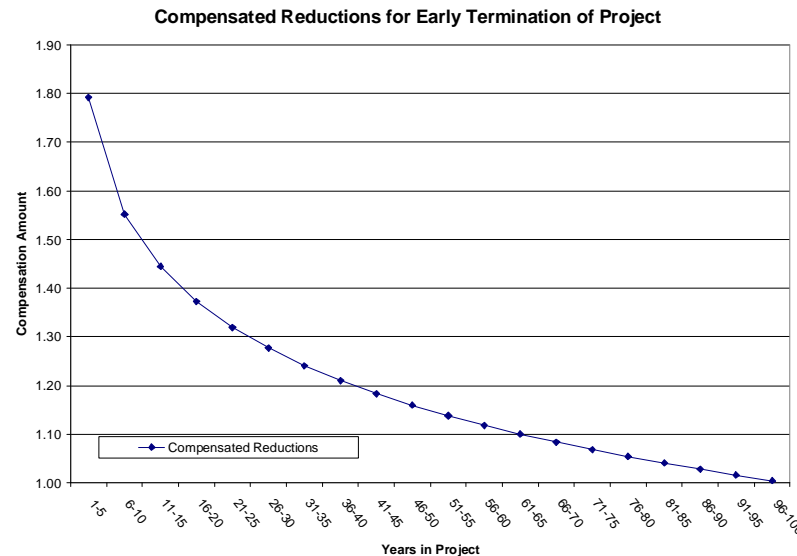
# Project Implementation Agreement (PIA)

- Legal Mechanism Against Reversals
  - unintentional (natural catastrophic -disturbances): buffer pool.
  - intentional (overharvesting, conversion, etc): obtain and surrender CRTs to the Reserve to make system whole.
- PIA includes requirement for the holder to transfer the obligation to successive landowners or to provide CRTs to Reserve to make system whole.

# Project Implementation Agreement (PIA)

Remedies for early termination include:

- Compensation of reductions based on proportion of 100-year agreement.




- Requirement to seek compensation with like tons (i.e., forest offsets).





# **Risk-management: Leakage**

- Each project type has its own worksheet that assesses the risk of leakage and provides a corresponding leakage risk factor.
- This risk factor or leakage percent must be assessed annually and deducted from the calculations of net carbon sequestration or avoided emissions.



# **Harvested Wood Product Quantification**



# Accounting Principles for Harvested Carbon

- Accounting of harvested carbon is essential to accurately account for climate benefits from forest management activities.
- Forest sector responsible for initial sequestration of carbon.
- Accounting needs to be accurate and crediting needs to be conservative.
- Quantification needs to be technically sound.



# Forest Workgroup Approach

- Applied 1605b accounting approach to quantify wood product life-cycle pools and emissions.
- Accounting of harvested carbon is conducted in both baseline and project activity analyses.
- Forest sector must account for all emissions over a 100-year period to address permanence and transparency issues, even though cross-sector accounting guidelines have not yet been established programmatically.
- Accounting and crediting are not the same and should be separated. Carbon in landfills to be accounted for but not credited due to accounting uncertainties.



# **Other Updates**



# Co-benefits - Natural Forest Management

Requirement to demonstrate environmentally responsible long-term forest management.

Requirements to:

- Maintain or increase live tree biomass.
- Manage for diversity of native species.
- Manage for diversity of age classes to support functioning habitat.
- Manage to conserve structural elements (snags).



# Project Start Date

Until 12 months after the adoption of the updated protocol, a start date back to 2001 may be used.

Start dates for projects are defined for each project type as follows:

- Improved Forest Management: when forest management activities are initiated that increase sequestration and/or decrease emissions relative to the baseline.
- Reforestation: the planting of trees, or site preparation for the planting of trees, whichever comes first.
- Avoided Conversion project start date: the commitment of the project area to continued forest management and protection.

# Required/Optional Pools

**Table A.1.** Reserve requirements of carbon pool categories and determination of value for pool.

Category	Carbon Pool	Required for Forest Mgmt?	Required for Reforestation?	Required for Avoided Conversion?	Determination of Value
Living biomass	Above-ground living Biomass	Required	Required <sup>1</sup>	Required	Sampled in Project
	Below-ground living biomass	Required	Required <sup>1</sup>	Required	Calculation based on above ground sampling
	Shrubs and Herbaceous Understory	Optional	Required	Optional	Sampled in Project
On-site Dead biomass	Standing Dead Biomass	Required	Required	Required	Sampled in Project
	Lying Dead Wood	Optional	Optional <sup>2</sup>	Optional	Sampled in Project
	Litter	Optional	Optional	Optional	Sampled in Project
Soil	Soil <sup>3</sup>	Optional	Optional	Optional	Sampled in project
Off-site dead biomass	Wood Products	Required	NA	Required	Decay calculation from volume of harvested wood

1/ Existing trees are not considered a part of a reforestation project but must be tracked over time to keep separate from regeneration. Since residual and new trees are easy to identify for several decades, this may be done at the first inventory.

2/ Lying dead wood is not a part of a reforestation project, however if the pool is significant and expected to diminish over time then it must be inventoried and is a required pool.

3/ Soil carbon is not anticipated to change significantly due to forestry activities, however, exceptions may exist including deep ripping or significant soil erosion.





# Verification Protocol

- Drafted after Forest Project Protocol is adopted



# Comments Received and Addressed

- 40+ sets of comments received
- Reviewed and addressed in documents posted on the Reserve website
- Written responses to every comment
- Public input improved protocol clarity and content



# Timeline

- 30-day public comment period for the complete updated Forest Project Protocol  
**Comments are due by May 11, 2009**
- Comments may be submitted online:  
<http://www.climateregistry.org/tools/protocols/project-protocols/forests.html>
- General comments related to ARB adoption of forest protocols can be sent to  
*jpanek@arb.ca.gov*
- Reserve Board of Directors Meeting: June 2009
- ARB Board Hearing: June 25-26, 2009

# Contacts

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[http://www.arb.ca.gov/cc/forestry/forestry\\_protocols/forestry\\_protocols.htm](http://www.arb.ca.gov/cc/forestry/forestry_protocols/forestry_protocols.htm)